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Tome V

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1956

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Série C. Sciences naturelles

Tome V

1955

Some new and less known Tettigoniidae (Orthoptera) from Turkey

By

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Özet : Son üç sene içerisinde Türkiyenin çeşitli bölgelerinden toplanılan materyalin işlenmesi neticesinde bu travay meydana getirilmiştir. Materyalin büyük kısmı Ömer Kaya Gülen (Savaştepe Öğretmen Okulu Tabiiye Öğretmeni) ve bizzat müellif tarafından toplanmıştır. Müellifin 1953 de Van ve Hakkâri, 1954 de Elazığ, Tunceli ve hususi ile Bingöl dağlarında yapmış olduğu gezilerin neticeleri çok enteresan olmuş ve Türkiye Orthoptera faunasına bir çok yenilikler katmıştır.

Bu travayda Tettigoniidae familyasından 10 yeni türün tavsifi yapılmış ve bilinen iki tür de yeniden işlenmiştir.

The present paper is based on the material collected in the last three years in different parts of Turkey. Most of it has been collected by Ö. K. Gülen and by myself mainly on journeys to Eastern Turkey, in 1953 to Van and Hakkâri and in 1954, to Elazığ, Tunceli and particularly in the Bingöl dağ range. The results of my journeys were extremely interesting and added much to the knowledge of the Turkish fauna of Orthoptera.

Amongst the Tettigoniidae, ten new species are described and two known species are redescribed below.

All types of the new species are deposited in the British Museum (Natural History), paratypes are in the Zoological Institute University of Ankara.

Pæcilimon xenocercus sp. n.

(Figs. 1-7)

♂ (type). - A small species. Fastigium of vertex much (approximately 2.5 times) narrower than first antennal segment, with very shallow depression above (some specimens with an indistinct fastigial furrow). Pronotum in profile somewhat concave in the first third; its metazona very weakly convex (fig. 1). Elytra extend to the end of the first tergite (fig. 2).

Cercus (fig. 3) cylindrical, with a strong and long tooth in the apical fourth, 2 smaller teeth between it and the apex (these smaller teeth are variable in size and number, see figs. 3, 3a, 3b, 3c, 3d), apical part is rounded (figs. 3, 3b, 3d), but in some specimens not rounded (figs. 3a, 3c); a dense row of strong black teeth runs obliquely across the apex.

Subgenital plate (fig. 4) much shorter than pronotum, much longer than wide, narrowed to the apex, which is very shallowly excised.

General colouration greenish brown; face lighter; occiput, approximately first half of pronotum, legs and half of lateral sides of tergites with irregular dark dots; abdomen with two parallel black stripes near middle line.

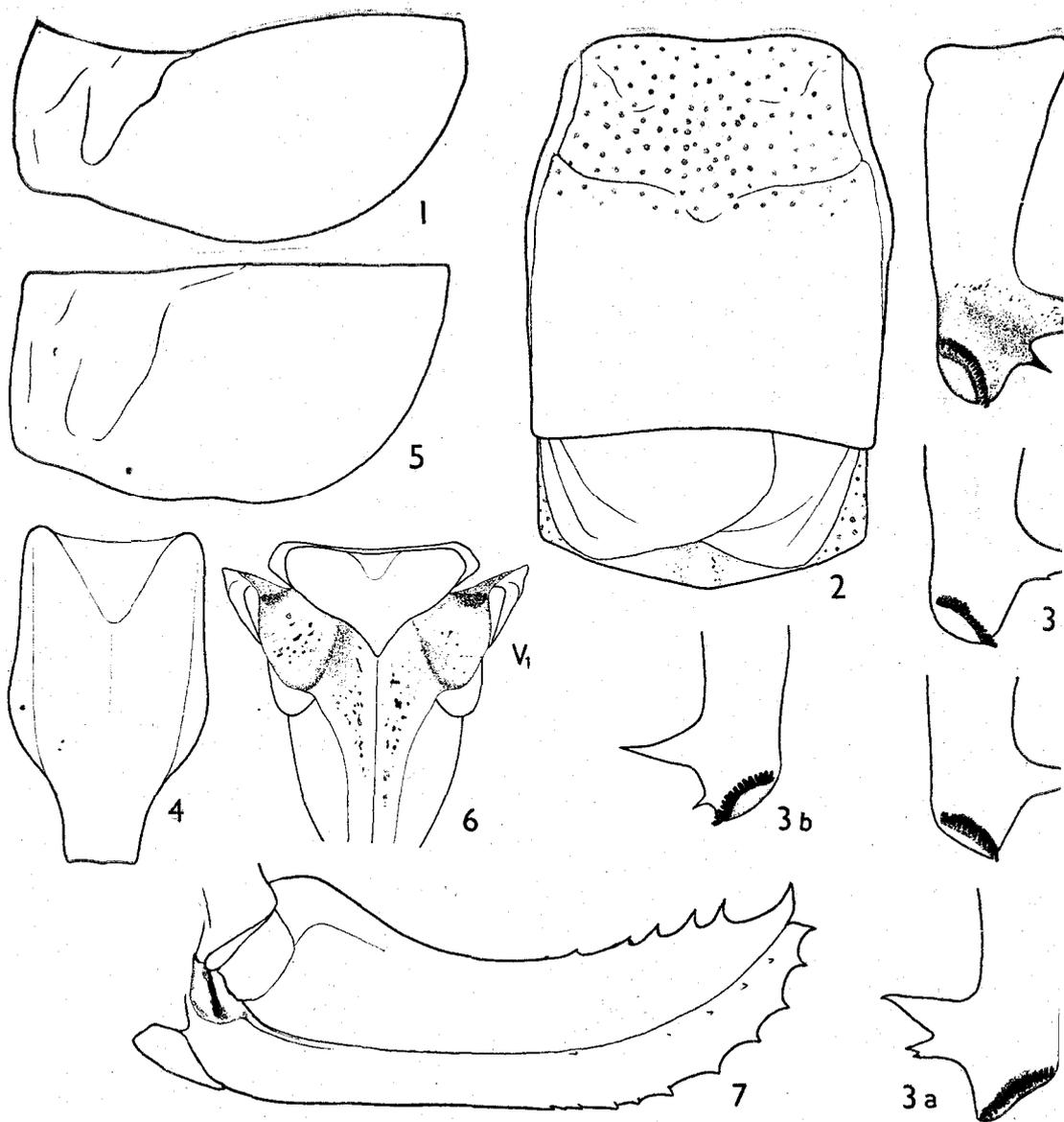
♀. Fastigium of vertex narrower than the first antennal segment, without a furrow. Pronotum almost straight in profile (fig. 5). Elytra very small, scale-like, completely covered by pronotum. Subgenital plate (fig. 6) triangular, first valvifer large, with a strong rounded swelling (fig. 6). Ovipositor (fig. 7) relatively short, longer than head and pronotum together.

Colouration of a brighter green than ♂, some specimens without parallel black stripes on the middle of tergites.

Length of body, ♂, 14.4-15.2 (type) -16.8, ♀, 15-15.7; pronotum, ♂, 4.2-5.1 (type) -5.2, ♀ 5-5.8; elytra, ♂, 1.6-1.9 (type) -2; hind femur, ♂, 12.7-14.2 (type) -14.3, ♀; 14.6-15.1; ovipositor, ♀, 6.2-7 mm.

Çorum province: İskilip, 26 VI.1954, 9 ♂♂ (including type), 6 ♀♀ (Plant Protection Institute of Ankara).

This new species is quite unique in the structure of the male cercus.



Figs. 1—7. — *Poecilimon xenocercus* sp. n. ♂, 1, Pronotum in profile; 2, pronotum, elytron and first tergite from above; 3, left cercus; 3 a, 3 b, end part of right cercus, 3 c, 3 d, end part of left cercus; 4, subgenital plate from below; ♀, 5, pronotum in profile; 6, subgenital plate and basis of ovipositor, V_1 = first valvifer; 7, ovipositor.

Poecilimon brunneri (Friv.)

(Figs. 8—13)

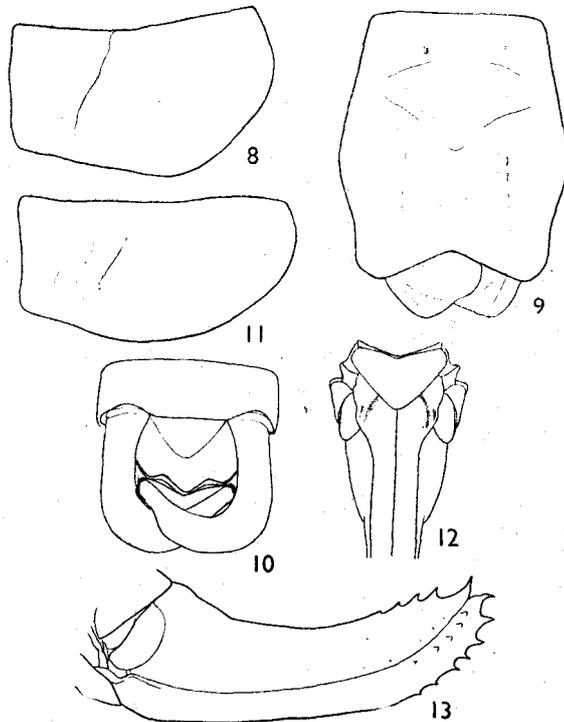
1867. *Odontura brunneri* Frivaldszky, Ertek Termez Kor, p. 94, Tab. II, figs. 3, 3a, 3b, 3c, 3d.

1878. *Poecilimon brunneri* Friv., Brunner von Wattenwyl, Monog. Phan., p. 45.

1954. *Poecilimon brunneri* Friv., Bei-Bienko, Faun. U.S.S.R., II (2) : 260, 305, fig. 178.

European Turkey, Kırklareli: Kapaklı Köyü, Suluçayır, 9.VI.1952, 3♂♂, 2♀♀ (E. Can).

This species has been described by Frivaldszky from Yugoslavia. Its distribution area includes Ukraine, Moldavia, Rumania, Bulgaria, Albania, Greece, Macedonia, but it is new for Turkey.



Figs. 8—13. — *Poecilimon brunneri* (Friv.), ♂, 8, pronotum in profile; 9, pronotum and elytron from above; 10, last tergite, cercus and subgenital plate from above; ♀, 11, pronotum in profile; 12, subgenital plate and basis of ovipositor; 13, ovipositor.

Gampsocleis acutipennis sp. n.

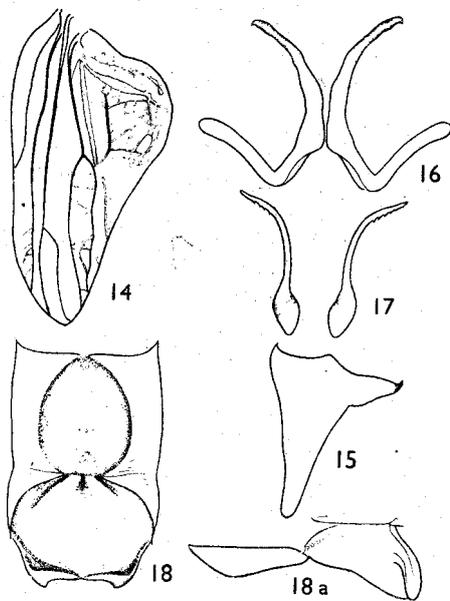
(Figs. 14—18)

♂ (type). — Pronotum compressed laterally, its upper surface almost flat; at the middle of metazona there is a transverse depression.

Elytra (fig. 14) reached to the end of 4 th tergite, with subacute apex.

Last tergite divided in two subacute expanded lobes.

Figs. 14—18. — *Gampsocleis acutipennis* sp. n., ♂, 14, left elytra; 15, left cercus; 16, first titillator; 17, second titillator; ♀, 18, 7 th sternite and subgenital plate from below; 18 a, 7 th sternite and subgenital plate in profile.



Cercus (fig. 15) stout, with a strong tooth near the base. First titillator (fig. 16) long and slender, its central branches irregular in shape; second titillator (fig. 17) long, its basal part stout, apical branch slender, serrated near the apex.

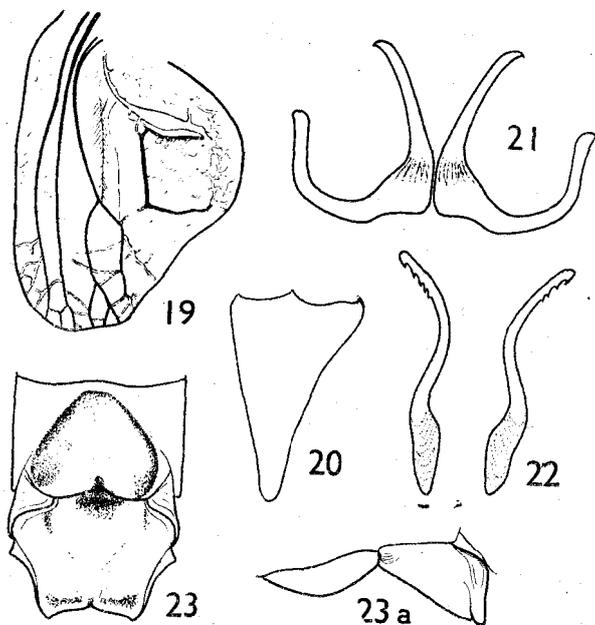
Subgenital plate with a shallow round excision in the middle.

Colouration straw-yellow; the middle of the fastigium of vertex and occiput with two parallel longitudinal black stripes; black spots on sides of pronotum. Abdomen with two parallel longitudinal brown stripes near middle line, and a transverse black spot on the side of each tergite; black spots on each side of first and second femora; longitudinal black line and black streaks and spots on the outer and inner side of hind femur.

♀. Elytra extend to the end of third tergite, their shape as in the ♂. Subgenital plate (figs. 18, 18a) very broadly and shallowly excised, its lobes thick and incurved, 7 th sternite in profile slightly convex. Ovipositor almost straight, gradually down curved in profile.

Colour as in ♂, some specimens light greenish.

Length of body, ♂, 30 (type) —31.7, ♀, 35-36.4; pronotum,



Figs. 19—28. — *Gampsocleis recticauda* Werner, ♂, 19, left elytra; 20, left cercus; 21, first titillator; 22, second titillator; ♀, 23, 7 th sternite and subgenital plate from below; 23 a, 7 th sternite and subgenital plate in profile.

♂, 9 (type) —9.7, ♀, 9.2-9.9; elytra, ♂, 11.3 (type) —13, ♀, 11.5-12.3; hind femur, ♂, 24.2 (type) —26.5, ♀, 29; ovipositor, ♀, 27.2-27.4 mm.

Elazığ province: Palu, Dabanlı, 29.VII.1954, 5 ♂♂ (including type), 6 ♀♀ (T. Karabağ).

This new species is related to *G. recticauda* Werner, but differs from it by the colour, by the shape of elytra, by the structure of titillators, and cercus of the male, and subgeni-

tal plate of the female, as can be seen by comparing figs. 14-18 with figs. 19-23. Figures of *G. recticauda* are drawn from specimens in the British Museum collection taken at Bursa, W. Turkey.

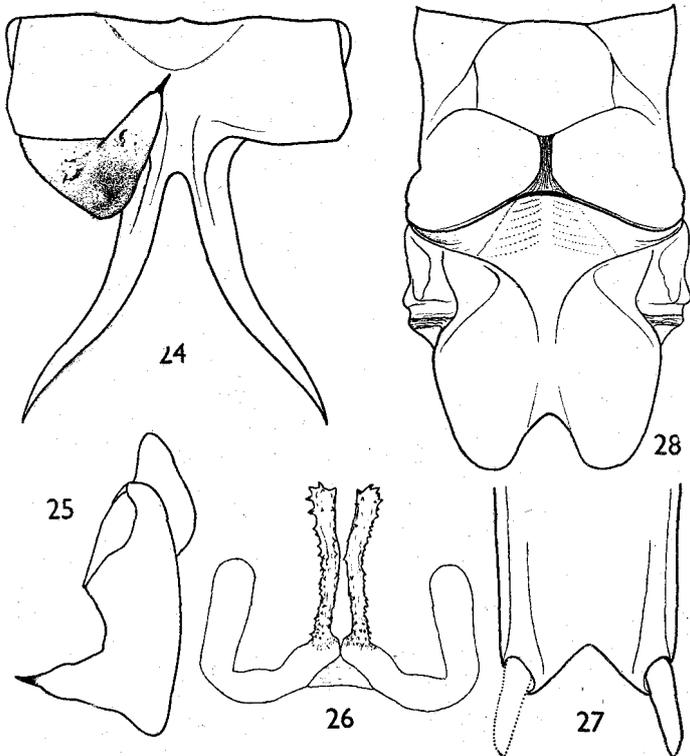
Drymadusa spinicercis sp. n.

(Figs. 24—28)

♂ (type). — Pronotum with the prozona weakly convex, metazona flattened, with a median carina.

Elytra well developed, extending beyond the hind knee, wings very broad, semi-circular.

Last tergite (fig. 24) with a pair of very long spine-like divergent apendages. Cercus (fig. 25) stout, subcylindrical, slightly incurved, with a large tooth before the apex. Titillator (fig. 26)



Figs. 24—28. — *Drymadusa spinicercis* sp. n., ♂, 24, last tergite and cercus from above; 25, right cercus; 26, titillator; 27, subgenital plate; ♀, 28, 7th sternite and subgenital plate from below.

small, its basal piece stout, its central branches covered with irregular dense small and acute teeth. Subgenital plate (fig. 27) much longer than wide, with a deep acutangular apical excision.

Colouration brown; frons with a complete black band between eyes, which continues behind them; a large blackish brown spot on lateral lobe of pronotum; pronotum above with X-shaped pattern; elytra with a series of round whitish spots and smaller white markings; wings hyaline.

♀. Pronotum as in ♂, median carina hardly visible. Subgenital plate (fig. 28) large, with a deep subacute excision, its lobes concave; 7 th sternite feebly convex in the middle, with strongly concave lateral surfaces. Ovipositor slightly down curved.

Colouration as in ♂.

Length of body, 39.2-40.5 (type) —42, ♀, 41-42; pronotum, ♂, 10-11 (type), ♀, 10.1-11.5; elytra, ♂, 41 (type) —42, ♀, 49-52.5; hind femur, ♂, 38-40 (type), ♀, 38.9—41.9; ovipositor, ♀, 30 mm.

Denizli province: Çal, Üçbaş Köyü, 23.VI.1952, 2 ♂♂ (including type), 1 ♀; Hatay province: Yayla dağı, Yukarı Tıngır Köyü, 28.VI.1952, 1 ♀; Mersin: Çevlik Köyü, 8.VII.1952, 1 ♂ (Ö. K. Gülen).

This new species is allied to *D. recticauda* Werner, but differs from it by longer elytra, semi-circular wings, which are not infumate, structure of cercus and slightly down-curved ovipositor.

Drymadusa albomaculata sp. n.

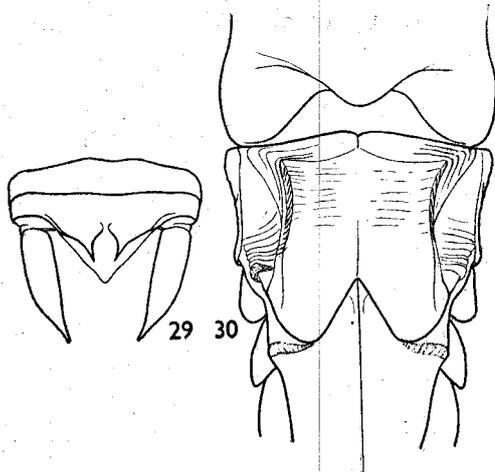
(Figs. 29—30)

♀ (type). — Pronotum smooth, prozona slightly convex, metazone flat. Elytra short, reaching the middle of 5 th tergite, with a series of 3-4 white spots. Last tergite (fig. 29) with acute lobes, which do not touch each other at the base; cercus relatively long and thick, its inner side almost straight, outer side weakly convex, its apex attenuate, subacute. Subgenital plate (fig. 30) laterally compressed, with a deep acutangular apical excision, its lobes convex; 7 th sternite with deeply concave lateral lobes. Ovipositor three times the length of pronotum, very weakly down-curved.

General colouration brown; frons with a black fascia between eyes; pronotum uniformly brown; femora with dark-brown preapical rings; hind femur light brown.

Length of body, 32; pronotum, 9.1; elytra, 13; hind femur, 33; ovipositor, 27.5 mm.

W. Anatolia, Muğla: Fethiye, Ca. 300-600 m., 15.VII.1953, 1 ♀ (type) (K. Erel).



Figs. 29—30.—*Drymadusa albomaculata* sp. n., 29, cercus, 9th and last tergite from above; 30, 7th sternite, subgenital plate and basis of ovipositor from below.

This new species appears to be near to *D. sinnata* Ramme, known to me only by its description, but differs from it by longer elytra and ovipositor and the structure of the last tergite, cercus, subgenital plate and 7th sternite of female.

Paradrymadusa brevicerca sp. n.

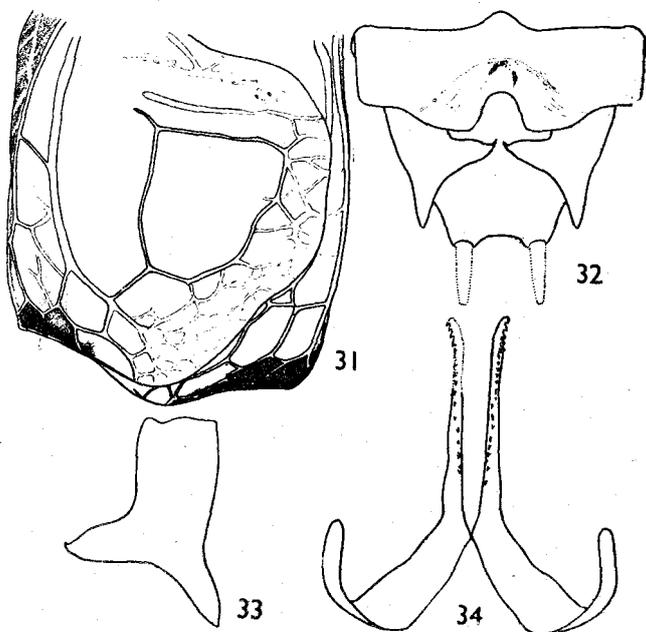
(Figs. 31—34)

♂ (type). — Of medium size. Fastigium of vertex as wide as the first antennal segment. Prozona of pronotum slightly convex, metazona almost flat. Elytra (fig. 31) extend to the middle of the third tergite. Last tergite (fig. 32) with a deep round excision. Cercus short and wide with a very strong tooth behind the middle, the apical part narrow, slightly outcurved (fig. 33). Titillator (fig. 34) long, slender, its central branches narrow,

with small and acute teeth. Subgenital plate (fig. 32) with a shallow excision.

General colouration dark brown; a black stripe on the frons between eyes; elytra light brown, with the lateral edge and the apical part black.

♀. Elytra very small, scale-like, reaching the first third of first tergite. Subgenital plate with a round excision. Ovipositor slightly down-curved, its upper edge almost straight.



Figs. 31—34. — *Paradrymadusa brevicerca* sp. n., ♂, 31, elytron; 32, last tergite, cercus and subgenital plate from above; 33, right cercus; 34, titillator.

Colour as in ♂, but darker.

Length of body, ♂, 20.3 (type), ♀, 24; pronotum, ♂, 6.5, ♀, 7; elytra, ♂, 5.7; hind femur, ♂, 22, ♀, 23.9; ovipositor, ♀, 16.8 mm.

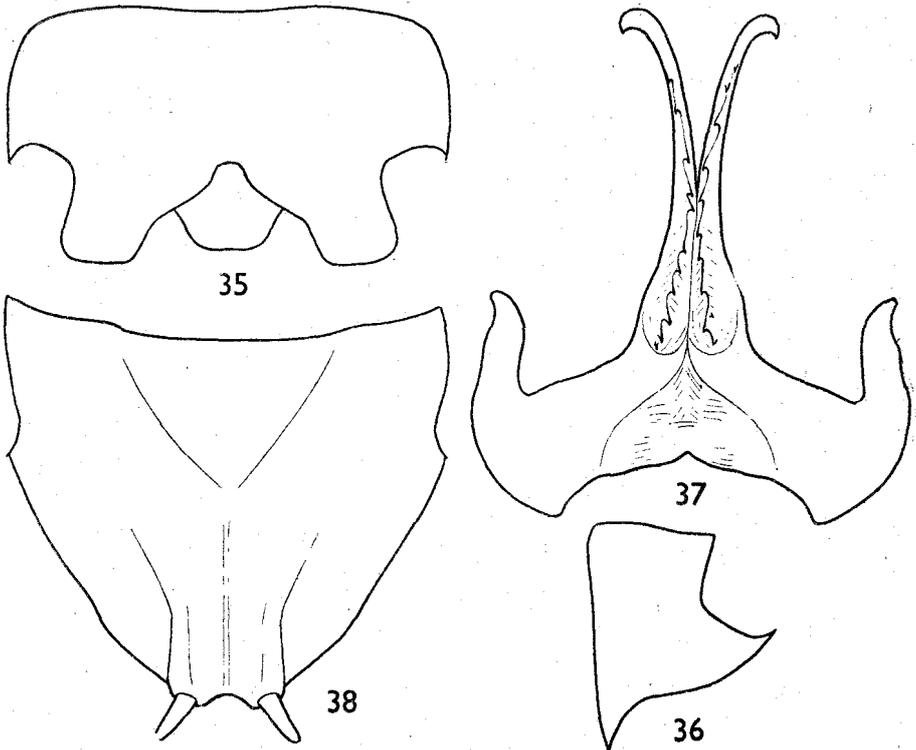
Artvin: Murgul, X.1954, 1 ♂ (type), 1 ♀ (A. Kansu).

Differs from other known species of this genus by the very short male cercus.

Phytodrymadusa expugnata (Uv.)

(Figs. 35—38)

1916. *Paradrymadusa expugnata* Uvarov, Izv. Kavkaz. Mus., X: 287, figs. 3, 4.
 1939. *Phytodrymadusa expugnata* Uv., Ramme, Mitt. Zool. Mus. Berlin, 24 (1): 80.



Figs. 35—38. — *Phytodrymadusa expugnata* (Uv.), ♂, 35, last tergite; 36, left cercus; 37, titillator; 38, subgenital plate.

Erzurum: Colik - Selean (?), 1.VIII.1916, 1 ♂, ♀. Kozik, 1.IX.1916 (Uvarov, l. c.), Elazığ: Palu-Đabanlı, 29.VII.1954, 1 ♂, Palu, 11.VIII.1954, 2 ♂ ♂, 2 ♀ ♀, 1 ♀ larva (T. Karabağ); Maraş, IX.1954, 1 ♂.

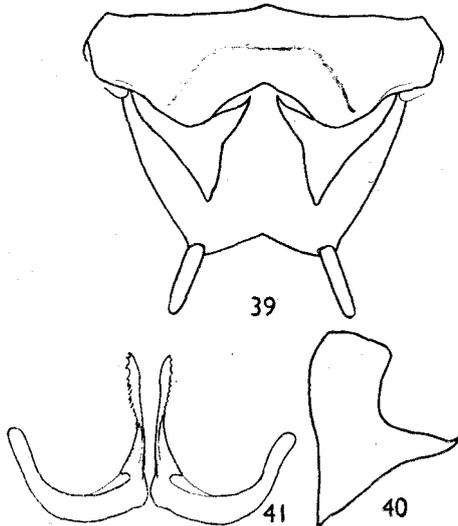
This interesting species has been described by Uvarov from Erzurum, N. E. Turkey. I collected a good series of specimens from Elazığ, and Maraş, in dry areas where *Eryngium* sp., and *Cirsium* sp. were the characteristic plants.

The figures are given here to assist in the determination of this species; the titillator has not been figured before and is particularly interesting.

Phytodrymadusa hakkarica sp. n.

(Figs. 39—41)

♂ (type) — Fastigium of vertex approximately twice as wide as the first segment of antenna. Pronotum almost cylindrical. Elytra longer than pronotum, extend to the end of third tergite. Last tergite (fig. 39) with a parabolic excision, its lobes round. Last tergite (fig. 39) with a parabolic excision, its lobes round.



Figs. 39—41. — *Phytodrymadusa hakkarica* sp. n., ♂, 39, last tergite, cercus and subgenital plate from above; 40, left cercus; 41, titillator.

Cercus (figs. 39, 40) short, conical, with its apex slightly outcurved, and with a strong and long tooth near the middle. Titillator long, slender (fig. 41), its central branches very thin, lamellate. Subgenital plate (fig. 39) wider than long, with obtusangular excision.

General colouration reddish-brown, posterior half of hind femur darker.

♀ — Elytra much shorter than pronotum, extend to the middle of second tergite. Subgenital plate wider than long,

with a deep and acute excision. Ovipositor approximately as long as hind femur, very slightly downcurved.

Length of body, ♂, 19.4-20 (type), ♀, 23.4-25; pronotum, ♂, 7.2 (type) —7.8, ♀, 8-8.3; elytra, ♂, 8.2 (type) —8.9, ♀, 4.4-4.2; hind femur, ♂, 18.1 (type) —19, ♀, 20.8-20.9; ovipositor, ♀, 20.5 mm.

Hakkâri province: Beytüşşebap, 30.VIII.1952, 1 ♂ (type), 3 ♀♀, Karadağ, 28.VIII 1952, 1 ♂ (C. Kosswig).

This new species is related to *Ph. expugnata* Uv., but differs from it by longer elytra, by structure of the last tergite, cercus and titillator of the male, as can be seen by comparing figs. 35-38 with figs. 39-41, and by the shorter ovipositor of the female.

Eupholidoptera unimacula sp. n.

(Figs. 42—46)

♂ (type). A small species. Pronotum cylindrical, rounded behind. Elytra short, with only very small part visible from above. Last tergite (figs. 42, 42a) with two short acute appendages, which are strongly curved down, cercus (fig. 43) without a tooth. Subgenital plate (figs. 44, 44a) with a very deep excision, its lobes ending in an acute tooth; no styli. Titillator (figs. 45, 45a) small, its central branches stout each ending in a strong tooth.

General colouration light brown; first antennal segment, a stripe between eyes and fastigium are black; a black stripe behind the eye; 6 black spots on face in hexagonal pattern; pronotum uniformly coloured with a single black spot at the upper hind corner of lateral lobe; hind edge of pronotum with a fine blackish border; middle part of elytra black; last tergite black, its appendages reddish brown.

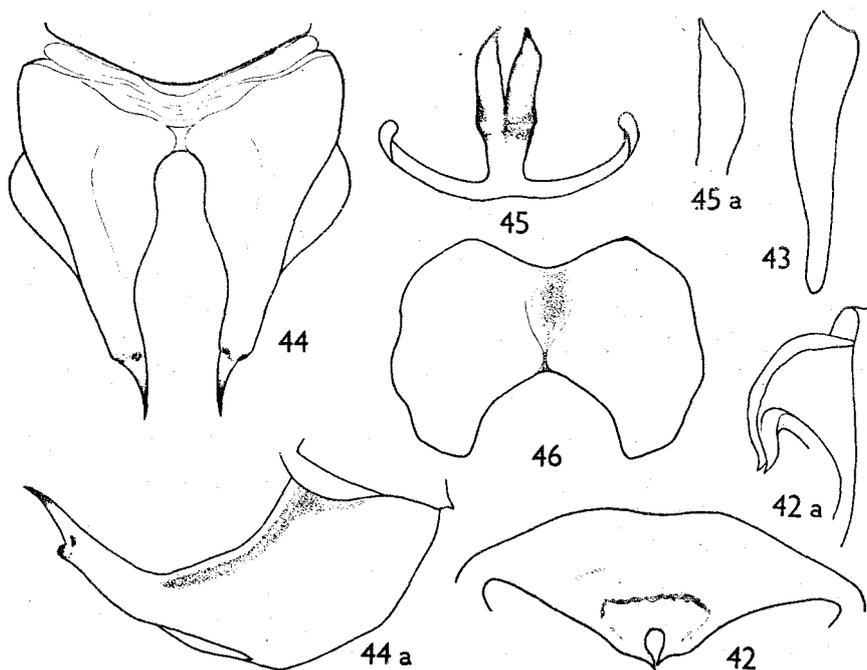
♀. Elytra fully covered by pronotum. Subgenital plate (fig. 46) wider than long, with a wide semi-circular excision. Ovipositor slender, slightly upcurved.

Colouration as in ♂; face and pronotum greenish-brown; hind femur near knee with a black spot; first tergite with a transverse black spot near middle; anal tergite not black.

Length of body, ♂, 17 (type), ♀, 20-20.1; pronotum, ♂, 8.1, ♀, 8.6-8.8; hind femur, ♂ (missing), ♀, 19.1-20.1; ovipositor, ♀, 17.1-17.9 mm.

Mersin : Nazimiye, 8.VIII.1952, 1 ♂ (type), Fındık Pınar yaylası, 20.VI.1952, 20-24.VI.1952, 5 ♀♀ (Ö. K. Gülen).

This new species appears to be related to *Eu. prasina* (Br. W.), but differs in shorter lobes of male subgenital plate, absence of styli, structure of last tergite and titillator of the male, and the subgenital plate of female. It also has a peculiar uniform light-brown colouration, with a single black spot on lateral pronotal lobe.



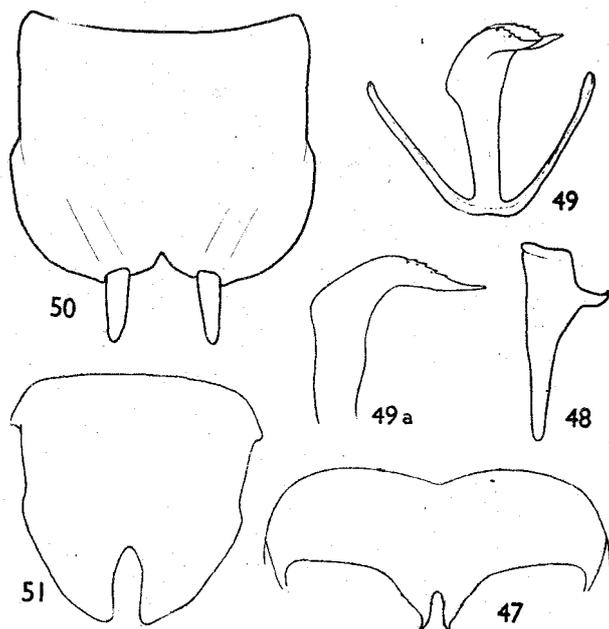
Figs. 42—46. — *Eupholidoptera unimacula* sp. n., ♂, 42, last tergite from above; 42 a, last tergite in profile; 43, left cercus; 44, subgenital plate from below; 44 a, subgenital plate in profile; 45, titillator; 45 a, apex part of titillator in profile; ♀, 46, subgenital plate.

Parapholidoptera spinulosa sp. n.

(Figs. 47—51)

♂ (type). — A small species. Pronotum long, cylindrical, posterior edge round. Elytra almost covered by pronotum, extend to the middle of second tergite. Last tergite (fig. 47) with a deep excision and pointed lobes, which are curved down, with

their apices slightly divergent. Cercus (fig. 48) conical, with a tooth near the base. Titillator (figs. 49, 49a) relatively small, its central branches asymmetrical, strongly curved to the left, divergent, with some small spines near the apex above. Subgenital plate (fig. 50) with a short acute excision. Hind femur, in the first half relatively thick and strong, then suddenly narrowed.



Figs. 47—51. *Parapholidoptera spinulosa* sp. n., ♂, 47, last tergite; 48, left cercus; 49, titillator; 49 a, apex part of titillator in profile; 50, subgenital plate; ♀, 51, subgenital plate.

General colouration probably light brown (specimens preserved in alcohol); two parallel blackish brown spots on first antennal segment, four small black spots on face in hexagonal pattern; lateral pronotal lobes black with light edge; a few black streaks and irregular spots above the base of hind femur.

♀. Pronotum larger, more cylindrical. Elytra fully covered by pronotum. Hind femur stronger. Subgenital plate (fig. 51) longer than wide, with a deep round excision, its lobes rounded.

Colouration as in ♂; the following parts are black: antennal sockets, a band between eye and fastigium of vertex, continued

behind the eye, irregular spots on occiput, lateral pronotal lobes except broad light edge, a small transverse spot on middle of posterior edge of metazona, irregular spots near base of anterior and median legs; transverse streaks on the upper side of hind femur; very small spots on posterior and median edge of tergites.

Length of body, ♂, 17 (type) —17.2, ♀, 19-20.4; pronotum, ♂, 7.5-7.9 (type) —8, ♀, 8-8.1; elytra (visible part), ♂, 1.5-1.9 (type) —2.3; hind femur, ♂, 15.1 (type) —15.2, ♀, 17.1-17.9; ovipositor, ♀, 16-16.6 mm.

Adana: Kozan, 15.VII.1952, 4 ♂♂ (including type), 3 ♀♀ (Ö. K. Gülen).

This new species differs from others of this group of genera with asymmetrical titillator (*Eupholidoptera astyla* Ramme, *Pholidoptera* (*Eupholidoptera*) *uvarovi* Karabag) by the male cercus, with a tooth near base, by the last tergite, with a deep round excision, by titillator armed with some small teeth and by subgenital plate of female.

Psorodonotus davisi sp. n.

(Figs. 52-55)

♂ (type). — Head relatively small, fastigium of vertex spherical; pronotum smooth, long, metazona strongly widened, its posterior edge round, median carina well developed on metazona, lateral carina distinct. Elytra (visible part) approximately as long as pronotum, extent to the middle of fourth tergite. Last tergite (fig. 52) with a very shallow and broad excision. Cercus (fig. 53) very short, with a very strong tooth before the middle, its apex round. Titillator (figs. 54, 54a) large, with strong and massive irregularly serate central branches. Subgenital plate longer than wide, with deep acutangular excision.

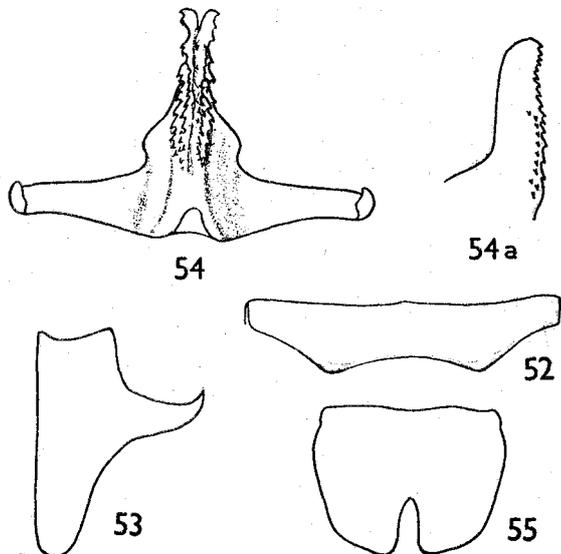
Colouration reddish brown, face and legs mottled with darker colour; metazona of pronotum, and elytra lighter.

♀. Pronotum very smooth. Elytra very short, mostly covered by pronotum, only a very small part visible laterally. Subgenital plate (fig. 55) with a narrow rounded excision, its lobes rounded. Ovipositor long, slender, at base moderately wide, slightly upcurved.

Colouration green, or greenish brown; face, sternum and abdominal sternites lighter; ovipositor brown.

Length of body, ♂, 27 (type), ♀, 29.4-30; pronotum, ♂, 11, ♀, 12.1-12.5; elytra, ♂, 11; hind femur, ♂, 21.1, ♀, 27.4-27.6; ovipositor, ♀, 29.2-31.1 mm.

Pontic Taurus, Rize province: dist. İkizdere, Tatos dağları above Cimil, 2500 m. 27.VIII.1952, 1 ♂ (type); Giresun province: Balaban dağları, above Tandere, 2000-2400 m., 5.VIII.1952, 2 ♀ ♀ (P. H. Davis).



Figs. 52-55. — *Psorodonotus davisi* sp. n., ♂, 52, last tergite; 53, left cercus; 54, titillator; 54 a, apex part of titillator in profile; ♀, 55, subgenital plate.

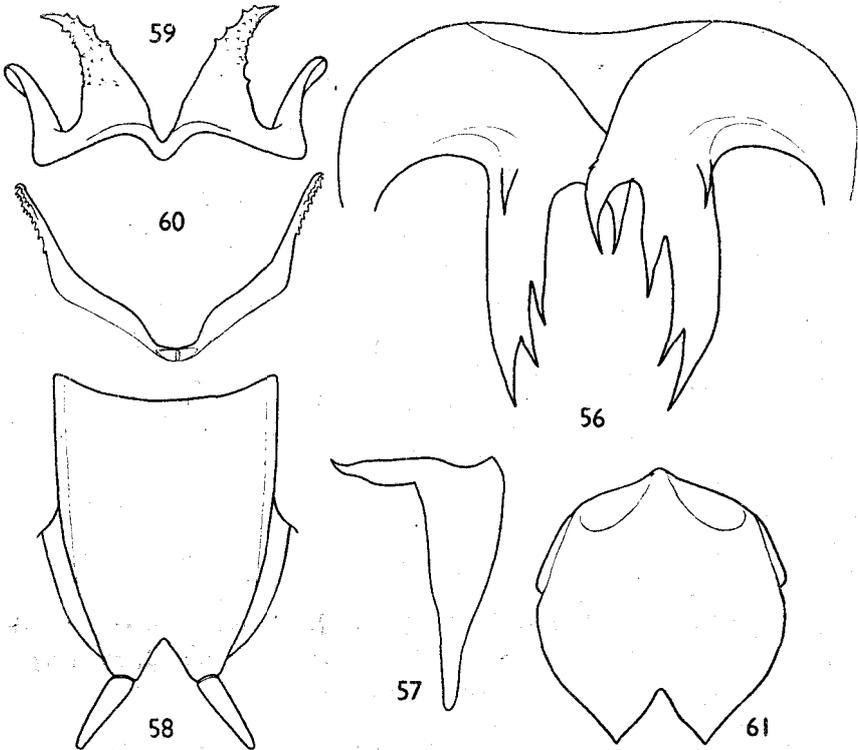
This interesting new species differs from others with the smooth pronotum by the exceptionally short and stout cercus, and the structure of the titillator of male, and by slender ovipositor of the female.

Bucephaloptera robusta sp. n.

(Figs. 56-61)

♂ (type). — A large species. Pronotum stout, its posterior edge rounded. Elytra short, extend to the end of first tergite.

First tergite with acutangular excision in the middle of posterior margin. Last tergite (fig. 56) divided in two large lobes, armed with a few acute spines, the first spine being the strongest. Cercus (fig. 57) with a strong basal tooth. Subgenital plate (fig. 58) longer than wide, with an acutangular excision. First titillator (fig. 59) with strong, divergent central branches armed with small and acute spinules; second titillator (Fig. 60) with



Figs. 56—61. — *Bacephaloptera robusta* sp. n., ♂, 56, last tergite; 57, right cercus; 58, subgenital plate; 59, first titillator; 60 second titillator; ♀, 61, subgenital plate.

long branches, narrowed near the apices, which are armed with several spinules in two rows.

General colouration reddish brown; a black spot in the upper posterior corner of lateral lobe; abdomen with a broad black lateral fascia; appendages of last tergite black; apical part of ti-

tillator blackish brown; upper edges of subgenital plate black; hind femur without a black basal spot.

♀. Elytra a little shorter than in male. First tergite as in ♂. Subgenital plate (fig. 61) with a deep excision and acute lobes. Ovipositor relatively short, slightly upcurved beyond the middle.

Colouration as in ♂

Length of body, ♂, 24 (type), ♀, 24.5-27.9; pronotum, ♂, 10.4, ♀, 9.9-10.3; elytra, ♂, 1.5, ♀, 1.3; hind femur, ♂, 25.1, ♀, 24.3-25.2; ovipositor, ♀, 16.4-17 mm.

Adana province: Haruniye, 17.VII.1952, 1 ♂ (type), 2 ♀♀ (Ö. K. Gülen).

This new species is related to *B. bolivari* Karabag, but is larger and differs from it by the structure of last tergite; first and second tillator of male, and shorter and very slightly upcurved ovipositor, and subgenital plate of female; the absence of black spot at the base of hind femur differentiates it from all other species of the genus.

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